

CLAIMS

[1] A machine room-less elevator in which a car raising and lowering along guide rails and a counterweight raising and lowering in an opposite direction of the car along a right or left side-surface or a rear surface of the car are driven by a hoist provided at a top of a hoistway, comprising first and second hoist ropes of two systems having one ends fixed to right and left sides of the car at positions nearly symmetrical with respect to a center of gravity of the car in a horizontal plane of the car and another ends fixed to the counterweight, wherein one of the first and second hoist ropes is driven by the hoist.

[2] The machine room-less elevator according to claim 1, wherein the first and second hoist ropes are fixed, at the another ends thereof, together to the counterweight.

[3] The machine room-less elevator according to claim 1, wherein the counterweight comprises a first and second counterweights each of which is guided by a single guide rail; and the another ends of the first and second hoist ropes are fixed to the first and second counterweights, respectively.

[4] The machine room-less elevator according to claim 3, wherein the first and second counterweights are each provided on opposite sides on the lateral surface side or the rear surface side of the car in the hoistway so that guide rails for each counterweights are provided therebetween.

[5] The machine room-less elevator according to claim 1, wherein a direction and a position of at least one system of the hoist ropes are changed by a return sheave pivotally supported by a vertical shaft at the top of the hoistway.

[6] The machine room-less elevator according to claim 5, wherein the first and second hoist ropes are driven by the same hoist.

[7] The machine room-less elevator according to claim 5, comprising the two hoists, wherein the first and second hoist ropes are driven by different hoists.

[8] The machine room-less elevator according to claim 1, wherein a portion of the car interfering with the hoist in a case where the car arrives at an upper limit in the hoistway is cut out.

[9] The machine room-less elevator according to claim 1, comprising the two guide rails for guiding the car, wherein the two guide rails are arranged in positions close to positions having point symmetry with respect to the center of gravity of the car in the horizontal plane of the car, and diagonal with respect to the car.

[10] The machine room-less elevator according to claim 9, wherein the first and second hoist ropes are driven by the same hoist.

[11] The machine room-less elevator according to claim 9, comprising the two hoists, wherein each of the first and second hoist ropes is driven by the different hoists.

[12] A machine room-less elevator in which a car raising and lowering along guide rails and a counterweight raising and lowering in an

opposite direction of the car along a right or left side-surface or a rear surface of the car are driven by a hoist provided at a top of a hoistway, wherein a suspension sheave is provided on the counterweight; and a hoist rope is provided, which has one end fixed to right or left side-surface of the car and another end fixed to a position substantially symmetrical to the one end on an opposite side of the car with respect to a center of gravity of the car in a horizontal plane, so that the hoist rope is looped around a first drive sheave, the suspension sheave, and a second drive sheave in the stated order.